NRDC Input on Proposed Title 20 Efficiency Standard for New TVs

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Overview

- Where are we now?
- Trends
- NRDC Feedback on PG&E and CEA proposals

TVs from 50,000 ft

- TVs – one of biggest unregulated electricity uses in the home
- Many big screen TVs use as much energy per year as new refrigerator
- TV energy use growing due to:
  - Bigger screen sizes
  - On more hours/day (more content, DVDs, video games, etc.)
  - Move to HD

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TVs from 50,000 ft (cont.)

- E-STAR now includes on-mode:
  - Tier 1 - effective 11/1/2008
  - Tier 2 - Levels TBD, effective 9/1/2010
- TVs represent 1% of national electricity use. Similar to 2005 energy use of all servers in US data centers and server farms that support the internet.

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Key Elements for a Standard

- Reliable test method
- Test data
- Spread between best and worst models
- Evidence of compliant models and/or ability to get there cost effectively very soon.

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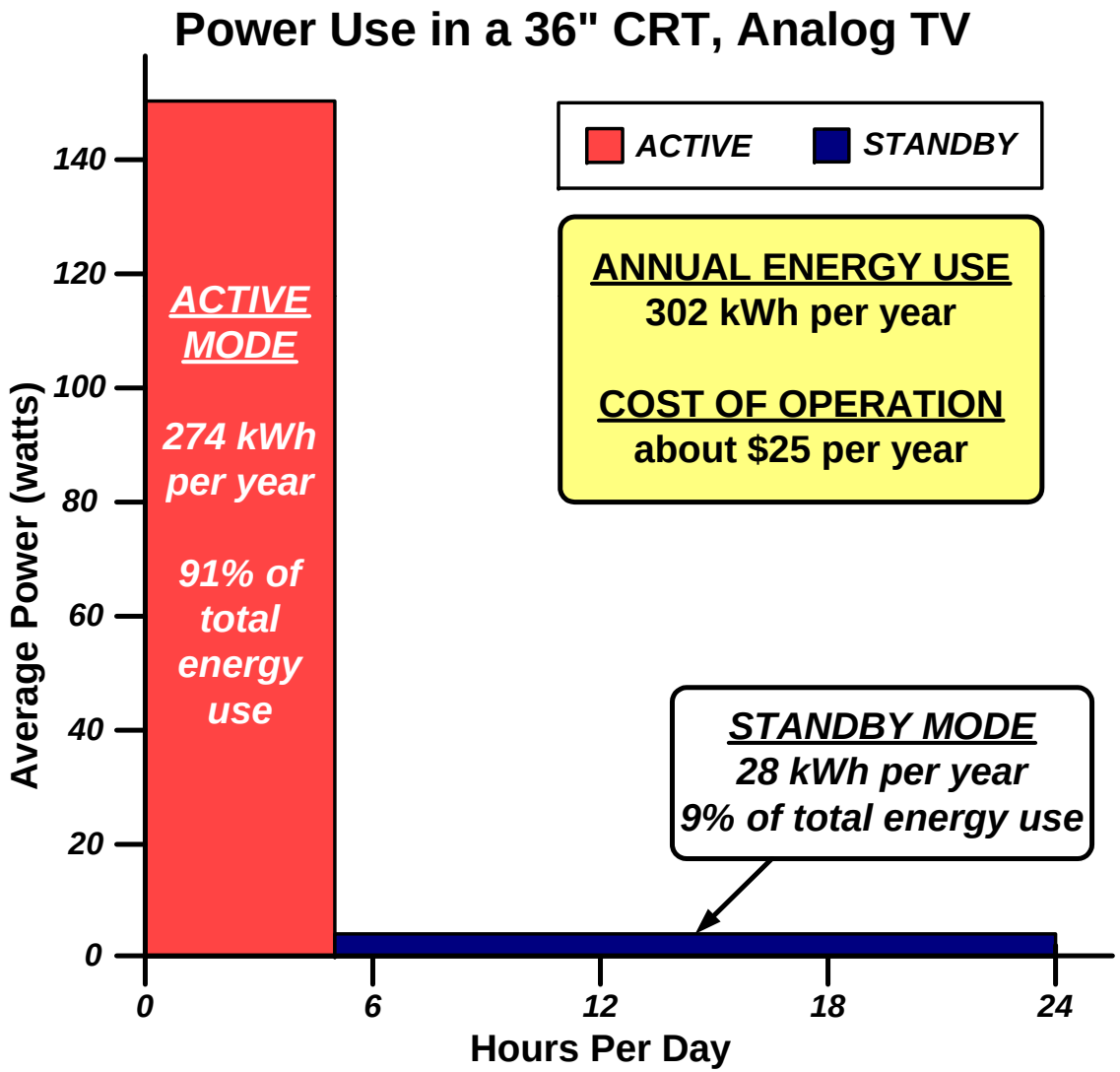
Why Include On/Active Mode?



On Mode Test Method

- DOE test method outdated
- Industry consensus test method now available (IEC). Created set of moving test clips – already used by EPA and others
- Formal IEC approval and publication due within weeks

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Data Set

- Hundreds of TVs tested in US and Europe per the IEC test method.
- Energy Star data set finalized in early 2008, but does not reflect most recent models and efficiency improvements

  (Note: due to CEA insistence, make and model numbers were NOT provided to EPA)

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Data Spread

- Wide differences in on mode energy use of current models DOES exist. Spreads:
  - Within technology families (e.g., plasma vs. plasma, LCD vs. LCD)

AND

  - Between competing technology (plasma, LCD, and rear projection)

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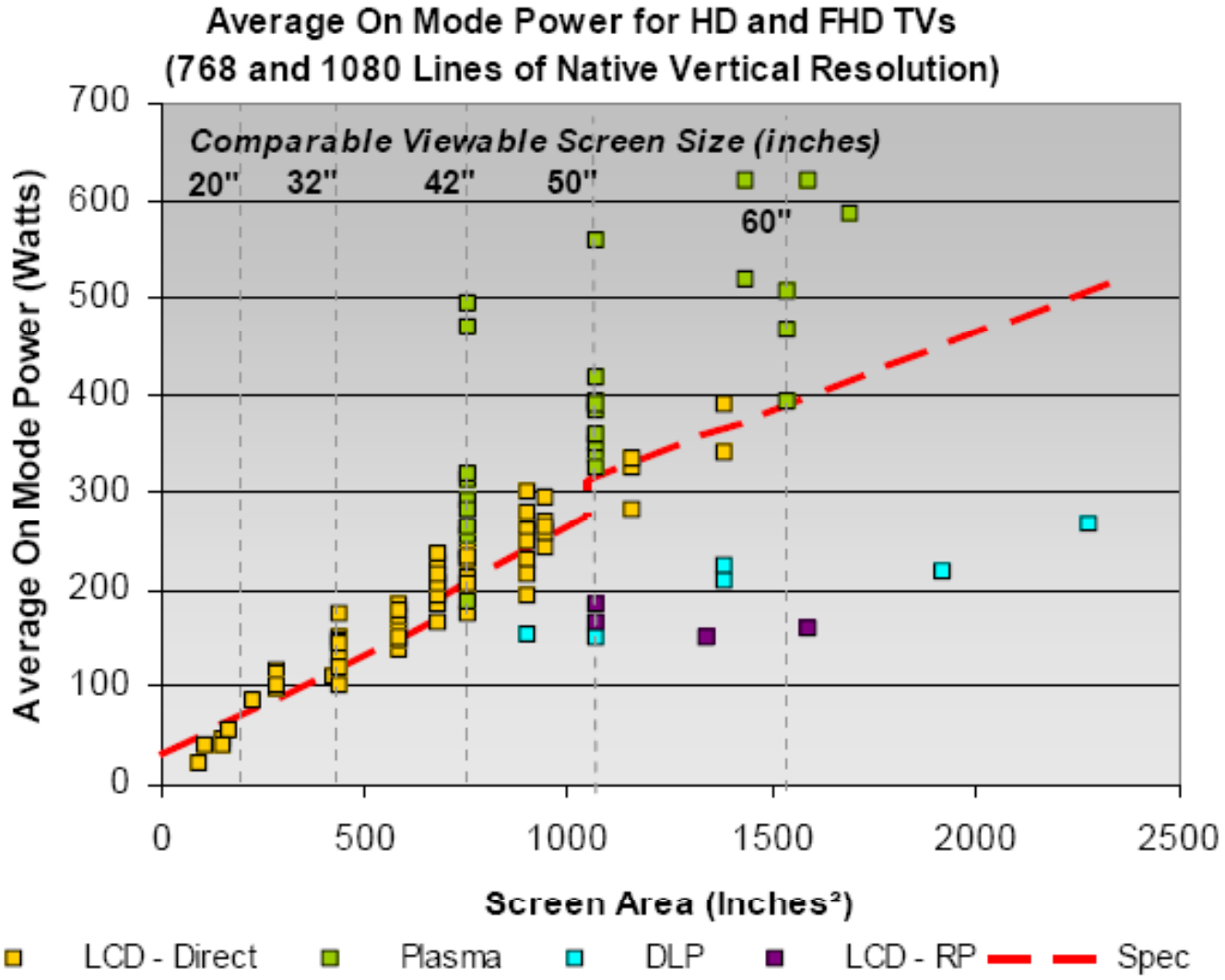

NOTE: The above chart includes only one data point per model, i.e., where manufacturers provided data for multiple factory pre-set picture settings, EPA has only included measurements made at the factory default, as shipped, picture setting.

Market Background

- 5 major LCD “panel” manufacturers worldwide. (Panel is the screen, backlight units, diffuser plate, etc.)
- All 5 panel makers now very focused on efficiency improvements
- Recent prototypes shown by all panel makers and their customers promise ~30%-50% power reduction, with no sacrifice in picture quality

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Impact of settings on power use

- Most TVs shipped overly bright to “stand out” at retail
- Plasma energy use very dependent upon screen settings
- “Home appropriate” settings could cut plasma TV power use by up to 30% (see CNET stories). LCD setting only 10% or so benefit

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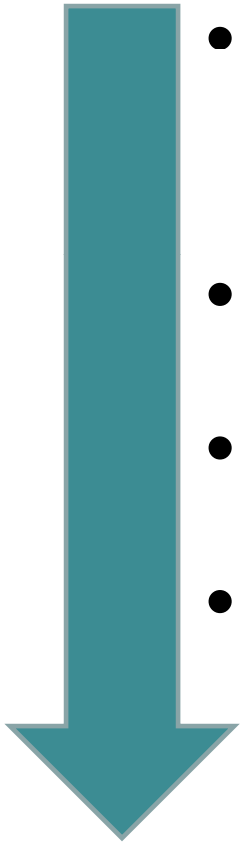
Plasmas

- Panasonic showed “double efficiency” technology at 1/08 CES show that ***“would cut annual power consumption approximately in half”***
- Also remember plasma only represent 10 to 15% of the market.

Various Options



- No standard – Just test and list; let the market work
- Adopt current Energy Star spec
- Adopt modified Energy Star spec
- Add a more stringent spec to reflect savings achievable by next generation products

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Proposals Analysis

1. CEA -Just test and list beginning 2/19/09:

   a) *Why wait?* Sales spike to occur before then. Nothing confidential – industry should do so voluntarily beginning this fall

   b) FTC to require this soon anyway due to federal energy bill (EISA)

   c) Not enough – many consumers don't base purchases primarily on energy use. Will not prevent ongoing sales of less efficient models, especially low cost "off brands".

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2. Adopt Energy Star

- E-Star spec is not very ambitious.
- Compliance rate expected to skyrocket due to screen setting adjustments – industry will move towards forced set-up menu.
- Big concessions made for large screen TVs -. Problematic given market trend towards larger TVs.
- Many big screen TVs are used in hotel lobbies, bars, etc. and are on 12 hours/day or more – these should have tougher, not easier standards

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3. Adopt Modified Energy Star Specification (tier 1)

- Create a continuous line. Eliminates problem of weak spec for the biggest TVs
- Makes sense as the “first step”. Eliminate least efficient models from the market.
- All technologies can meet this spec (tier 1) with little to no changes needed. Many plasmas can meet this simply by changing screen settings
- Effective date – suggest 1 year after E-Star goes into effect 11/1/2009. Capture 2009 holiday selling season (PG&E proposed 1/1/11)

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4. Set an Ambitious Tier 2

- Establish a more stringent standard based on expected improvements in new models
- Set a clear target for new designs and give sufficient lead time for industry to innovate and make necessary production changes.
- Lead time – provides ability for utilities to offer rebates for Tier 2 models and jumpstart the market

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NRDC Recommendations

- Adopt <u>both</u> CEA's test and list proposal, **<u>AND</u>** PG&E's proposed two Tier minimum performance standard
- Triple check settings language and ensure we get it right
- Recommended effective dates:
  - Tier I: 11/1/2009 (1 year after EStar)
  - Tier 2: 11/1/2011 (>3 years from today)

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Final Points

- Set a technology neutral, performance based standard. Two tiered standard makes a lot of sense.
- To greatly increase the energy and carbon savings CA needs, establish a meaningful Tier 2 standard **now** and give industry lots of lead time.
- PG&E proposal will yield 600 MW of demand savings upon full stock turnover. (compare this against the 60 MW of savings the state has worked so hard to achieve by installing roof top PVs in 2008. Go to http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2008/07/15/BUNL11OVEF.DTL&hw=solar&sn=001&sc=1000

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Final Points

- Provide industry with sufficient time to achieve Tier 2. We suggest roughly 3 ½ years from today.
- Based on industry press releases, prototypes, etc, consumers will have ongoing access to all digital technologies including LCD, plasma, rear projection/DLP, etc. after Tier 2 goes into effect.

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